

WHAT IS CLAIMED IS:

1. A solid mixture consisting essentially of chlorendic anhydride and maleic anhydride in the absence of liquid hydrocarbons and halohydrocarbons, wherein the molar ratio of maleic anhydride to chlorendic anhydride is at least 1.1:1.

2. A mixture according to claim 1 wherein the molar ratio of maleic anhydride to chlorendic anhydride is from 1.15:1 to 3:1.

3. A mixture according to claim 1 wherein the melting point of said mixture is below the decomposition temperature of said mixture.

4. A mixture according to claim 3 wherein the melting point of said mixture is from 90 to 180° C.

5. A method for preparing a solid mixture consisting essentially of chlorendic and maleic anhydrides, wherein said method comprises the steps of :

heating a quantity of hexachlorocyclopentadiene to at least 120° C. in a reactor in the absence of liquid hydrocarbons or liquid halohydrocarbons;

gradually adding to said reactor a quantity of molten maleic anhydride equivalent to at least 1.1 times the number of moles of hexachlorocyclopentadiene initially present in said reactor while heating and agitating the resultant mixture sufficiently to maintain it as a molten material;

following completion of the maleic anhydride addition, maintaining said molten material for a period of time sufficient for a substantially complete conversion of said hexachlorocyclopentadiene to chlorendic anhydride, which is present as a molten reaction product together with unreacted maleic anhydride; and

cooling said molten reaction product to form a solid mixture of chlorendic and maleic anhydrides.

6. A method according to claim 5 wherein the molar ratio of maleic anhydride to chlorendic anhydride is from 1.15:1 to 3:1 and said hexachlorocyclopentadiene is heated to between 150 and 175° C.

7. A method according to claim 5 wherein the temperature of said molten material is maintained below the decomposition temperature of said hexachlorocyclopentadiene and maleic anhydride.

8. A method according to claim 5 wherein the melting point of said material mixture is from 90 to 180°C.

9. A method according to claim 5 wherein the said reaction mixture is in contact with a gas mixture containing from 2 to 21 volume percent oxygen while in a molten state.

10. A method according to claim 5 wherein the concentrations of impurities in said hexachlorocyclopentadiene and initial maleic anhydride do not exceed 2 weight percent.

11. A method according to claim 5 wherein said solid mixture is combined with a dihydric alcohol to form a polyester precursor.

12. A method for preparing a solid mixture consisting essentially of chlorendic and maleic anhydrides, wherein said method comprises the steps of :

heating a quantity of maleic anhydride to at least 145° C. in a reactor in the absence of liquid hydrocarbons or liquid halohydrocarbons;

gradually adding to said reactor a quantity of hexachlorocyclopentadiene equivalent to at least 1.1 times the number of moles of the maleic anhydride initially present in said reactor while heating and agitating the resultant mixture sufficiently to maintain it as a molten material;

following completion of the hexachlorocyclopentadiene addition, maintaining said molten material for a period of time sufficient for a substantially complete conversion of said hexachlorocyclopentadiene to chlorendic anhydride, which is present as a molten reaction product together with unreacted maleic anhydride; and

cooling said molten reaction product to form a solid mixture of chlorendic and maleic anhydrides.

13. A method according to claim 12 wherein the molar ratio of maleic anhydride to chlorendic anhydride is from 1.15:1 to 3:1 and said maleic anhydride is heated to between 150 and 175° C.

14. A method according to claim 12 wherein the temperature of said molten material is maintained below the decomposition temperature of said hexachlorocyclopentadiene and maleic anhydride.

15. A method according to claim 12 wherein the melting point of said material mixture is from 90 to 180°C.

16. A method according to claim 12 wherein the said reaction mixture is in contact with a gas mixture containing from 2 to 21 volume percent oxygen while in a molten state.

17. A method according to claim 12 wherein the concentrations of impurities in said hexachlorocyclopentadiene and initial maleic anhydride do not exceed 2 weight percent.

18. A method according to claim 12 wherein said solid mixture is combined with a dihydric alcohol to form a polyester precursor.

19. A polyester precursor comprising the reaction product of at least one dihydric alcohol and a mixture consisting essentially of chlorendic anhydride and maleic anhydride in the absence of liquid hydrocarbons and halohydrocarbons, wherein the molar ratio of maleic anhydride to chlorendic anhydride is at least 1.1:1.

20. A precursor according to claim 19 wherein the molar ratio of maleic anhydride to chlorendic anhydride is from 1.15:1 to 3:1.

21. A precursor according to claim 19 wherein said dihydric alcohol contains from 2 to 10 carbon atoms.

22. A precursor according to claim 19 wherein the molar ratio of all dihydric alcohols to total anhydrides present in said mixture is from 0.5:1 to 1.5:1.